INTRODUCTION TO THE SUBURBAN NATURAL ECOSYSTEM'S WORKING GROUP RECOMMENDATIONS

Numerous indicators suggest that the limits of the natural world to adapt to stress and change are being stretched beyond tolerance. For example, hundreds of species of birds, are in severe decline in the United States, falling in population by as much as 90 percent since the 1960s.1 While the main cause for their steep decline is loss of habitat, other destructive elements include "invasive plant species that take over native seed and nesting sources, wind turbines located near critical flyways, lighted and glass-encased buildings, lighted cell-phone towers, domestic cats, disease, pesticides and climate change, which also is shrinking habitat ranges." 1 In 2006, commercial migratory beekeepers along the East Coast of the United States began reporting sharp declines in their honey bee colonies. Beekeepers in 35 states, including California, have been affected, with about one half of surveyed beekeepers report experiencing "abnormal" or "severe" colony losses. Given that honey bees are the most economically valuable pollinators of agricultural crops worldwide and are responsible for every third bite of food, this loss may have serious implications for our nation's food supply.2 In our most critical environmental threat faced to date, overuse of fossil fuels and its associated global warming is causing significant changes in the climate, resulting in altered weather systems, rising water levels, and expanding public health threats.

Our disregard for the delicate balance present in nature has created an environmental crisis of worldwide proportion. However nature also offers possible avenues for recovery. Within Mountain View, numerous opportunities exist for us to enlist the help of the natural environment to mitigate the effects of greenhouse gases and pollution, and create a more sustainable and ecologically balanced community. Our group has a vision for Mountain View in which every backyard, porch, roof garden, parking lot, schoolyard, church, recreational area, roadway, business site, neighborhood, and community is filled with trees (to sequester carbon, provide shade, produce oxygen and reduce pollution), habitats (to shelter and nurture plants and animals), and food-producing plants (to reduce our reliance on fossil fuels and provide healthier and more nutritious choices for us and our children).

As in medicine, our group used the guiding principal "First, Do No Harm" as our initial screening tool when assessing the impact of various activities on the suburban natural ecosystem. While development itself is a defining feature of the urban environment, it needs to be in a thoughtful manner and additional harmful effects on the ecosystem need to be minimized. Decisions regarding development need to be made with adequate information regarding the potential effect a project will have on the environment. Toxic chemicals in the environment and the excessive use of valuable resources such as water should be avoided whenever possible.

Our second guiding principal is that working with natural ecosystems is generally more effective, requiring less energy and resources than interventions done in a manner contrary to the laws of nature. Planting trees to shade buildings from the sun requires far less energy than running air conditioners all summer. Planting lawns and other water-intensive landscaping in a hot, dry Mediterranan climate results in high resource use, greater maintenance costs, and extra energy input, to properly maintain such ill-suited vegetation.

As noted in the margarine commercial jingle of our youth, "It's Not Nice to Fool Mother Nature!" Natural ecosystems rely on a series of intricate checks and balances, keeping members in check and working together to the benefit of all. When we use pesticides instead of integrated pest

management, we strip the ecosystem of its natural system of checks and balances, requiring us to add more toxic and energy-intensive products to control the resulting proliferation of pests. Environmental toxins disrupt the balance of the natural ecosystem, having harmful effects on all members of the food web, from the smallest microbe to the largest mammal (which in Mountain View is - us!)

Biodiversity is another essential feature of natural ecosystems, allowing them to adapt to environmental changes and stay healthy and balanced. (Biodiversity means having a variety of species of plants and animals that represent a diverse gene pool.) When we artificially favor certain varieties of plants and animals at the expense of others, we risk population collapse when that species doesn't have the genetic reservoir to adapt to changes in the environment.

Our final guiding principal was the scouting motto, "Be Prepared". An environmental crisis of worldwide proportion is upon is, and significant changes in our lifestyles and priorities are required. Having a strong, balanced, diverse ecosystem within Mountain View will help us weather the storms ahead, creating stability and the capacity for our community to adapt to change.

Footnotes:

1) Bird species plummet as habitat dwindles. Carolyn Lochhead, Chronicle Washington Bureau, Friday, July 11, 2008, http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2008/07/11/MNO511N21T.DTL
2) Recent Honey Bee Declines, CRS Report to Congress, http://www.fas.org/sgp/crs/misc/RL33938.pdf

Working Group Members:

Nancy Dismore, RN
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Working Group Chair: Cynthia Kapphahn, MD, MPH

Recommendation #1

Title: Value Mountain View's Urban Forest

Working Group: Suburban Natural Ecosystems & Biodiversity

Statement of Issue:

Trees are an essential part of the Mountain View environment and can have an important role in making the city more sustainable. Carbon sequestration, improvement in air quality (The average tree produces enough oxygen for 4 people each day), reduction in heat island effects, and the creation of a pedestrian friendly streetscape are three important factors for impacting emissions and climate change. Overall, the City has good tree ordinances and is committed to having a tree friendly environment, however, there is room for improvement.

Recommendations:

SHORT TERM (1-12 mos.):

- Implement recommendations of the recent City Commissioned Davey Resource report & the 2006 Urban Forest Management Report (see appendix).
- Make it easier for residents to get free trees at the Arbor Day celebration by outreach & information in multicultural/ethnic formats.
- Create a website with tree care information.
- Partner with MV trees for more tree planting in the city to achieve the 90% goal of planting trees in suitable locations by:
    - Creating a city wide program to challenge residents/ business to meet the goal of planting a certain number of trees within a year with a central website where people can where an ongoing tally can be kept to see when the city-wide goal is reached.
    - Schools & churches are other areas where there are opportunities to plant more trees. Trees have been shown to have a beneficial effect when planted around school play yards, as it provides shelter and interesting play areas for children. Create a contest to see which school or church could plant the most trees.
- Create a network of volunteer tree 'amigos' who can monitor the growth of newly planted trees and report any incidents of harm done to them as well as helping to care for trees when the property owners cannot in order that they are not removed.

Fiscal Impact: Low to Medium

MEDIUM TERM (1-3 yrs.):

- Enact legislation to punish those who damage or kill any MV trees and strengthen the existing heritage tree ordinance.
- Require new development to have a significant amount of trees (at least one tree within 12 feet of any parking space).
- Permit and promote living roofs (see San Francisco & Chicago for examples)
- Encourage more residential programs to plant new trees in higher density housing – townhomes and apartment complexes
- Increase the funds the city spends on street trees.
- Add another city staff person responsible for trees i.e. work to make sure trees are accounted for in planning and development, new building development and heritage trees preservation

Fiscal Impact: Medium to high.

LONG TERM (3+ YRS.):

- Create pedestrian friendly streetscapes with trees as an important design consideration for all infill development and redevelopment projects
- Add more trees to all MV parks, schools, and city building campuses – especially around parking areas. Set a five year goal of 1000 new trees in these locations and make it happen.

Fiscal Impact: Medium to high.

Environmental Impact :[1]

URBAN FORESTS IMPROVE OUR AIR THROUGH: Carbon Sequestration, a single mature tree can absorb carbon dioxide at a rate of 48 lbs./year and release enough oxygen back into the atmosphere to support 2 human beings.

REDUCTION OF POLLUTANTS AND AIR QUALITY ENHANCEMENT: One sugar maple (12" DBH) along a roadway removes in one growing season 60mg cadmium, 140 mg chromium, 820 mg nickel, and 5200 mg lead from the environment.
Trees remove gaseous pollutants by absorbing them with normal air components through the stomates in the leaf surface including:

- Sulfur Dioxide (SO2) from coal burning and refining/combustion of petroleum products
- Ozone (O3) from the emissions of automobiles and industry
- Nitrogen oxides from automotive exhaust
- Particulates - small (<10 microns) particles emitted in smoke from burning fuel, especially diesel, that enters the lungs and causes respiratory problems. There is up to a 60% reduction in street level particulates with trees. In one urban park (212 ha.) tree cover was found to remove daily 48lbs. particulates, 9 lbs nitrogen dioxide, 6 lbs sulfur dioxide, and 2 lb carbon monoxide ($136/day value based upon pollution control technology) and 100 lbs of carbon.

URBAN FORESTS PROTECT OUR WATER:

Trees act as natural pollution filters. Their canopies, trunks, roots, and associated soil and other natural elements of the landscape filter polluted particulate matter out of the flow toward the storm sewers. Reducing the flow of storm water reduces the amount of pollution that is washed into a drainage area. Trees use nutrients like nitrogen, phosphorus, and potassium--byproducts of urban living--which can pollute streams.

URBAN FORESTS SAVE ENERGY:

Homeowners that properly place trees in their landscape can realize savings up to 58% on daytime air conditioning and as high as 65% for mobile homes. If applied nationwide to buildings not now benefiting from trees, the shade could reduce our nation's consumption of oil by 500,000 barrels of oil/day.

The maximum potential annual savings from energy conserving landscapes around a typical residence ranged from 13% in Madison up to 38% in Miami. Projections suggest that 100 million additional mature trees in US cities (3 trees for every unshaded single family home) could save over $2 billion in energy costs per year.

Trees lower local air temperatures by transpiring water and shading surfaces. Because they lower air temperatures, shade buildings in the summer, and block winter winds, they can reduce building energy use and cooling costs.

URBAN FORESTS ALSO:

1. Extend the Life of Paved Surfaces: Streets should be overlaid or slurry sealed every 7-10 years over a 30-40 year period, after which reconstruction is required. A slurry seal costs approximately $0.27/sq.ft. or $50,000/linear mile. Because the oil does not dry out as fast on a shaded street as it does on a street with no shade trees, this street maintenance can be deferred. The slurry seal can be deferred from every 10 years to every 20-25 years for older streets with extensive tree canopy cover.

2. Increase Traffic Safety: A treeless street enhances the perception of a street being wide and free of hazard, thereby increasing speeds. Increased speed leads to more accidents. Trees can also enhance traffic calming measures, such as narrower streets, extended curbs, roundabouts, etc. Tall trees give the perception of making a street feel narrower, slowing people down. Closely spaced trees give the perception of speed (they go by very quickly) slowing people down. Trees can serve as a buffer between moving vehicles and pedestrians. Street trees also forewarn drivers of upcoming curves. If the driver sees tree trunks curving ahead before seeing the road curve, they will slow down and be more cautious when approaching curves

3. Improve Economic Sustainability:

Studies have shown that:

1. Trees enhance community economic stability by attracting businesses and tourists.
2. People linger and shop longer along tree-lined streets.
3. Apartments and offices in wooded areas rent more quickly and have higher occupancy rates.
4. Businesses leasing office spaces in developments with trees find their workers are more productive and absenteeism is reduced.

4. Affect Consumer Perceptions and Behaviors.

5. Add Aesthetic Value.

6. Increase Real Estate Values: Property values increase 5-15% when compared to properties without trees (depends on species, maturity, quantity and location). A 1976 study that evaluated the effects of several different variables on homes in Manchester, Connecticut, found that street trees added about $2686 or 6% to the sale price of a home.
A more recent study indicated that trees added $9,500, or more than 18 percent, to the average sale price of a residence in a suburb of Rochester, New York.

7. Have Sociological Benefits:

University of Illinois researchers studied how well residents of the Chicago Robert Taylor Housing Project (the largest public housing development in the world) were doing in their daily lives based upon the amount of contact they had with trees, and came to the following conclusions (useful in dealing with MV gang problems):

- Trees have the potential to reduce social service budgets, decrease police calls for domestic violence, strengthen urban communities, and decrease the incidence of child abuse according to the study.
- Residents who live near trees have significantly better relations with and stronger ties to their neighbors.
- Researchers found fewer reports of physical violence in homes that had trees outside the buildings. Of the residents interviewed, 14% of residents living in barren conditions have threatened to use a knife or gun against their children versus 3% for the residents living in green conditions.

- Studies have shown that hospital patients with a view of trees out their windows recover much faster and with fewer complications than similar patients without such views.
- A Texas A&M study indicates that trees help create relaxation and well being.
- A U.S. Department of Energy study reports that trees reduce noise pollution by acting as a buffer and absorbing 50% of urban noise.

Fiscal Impact:

As mentioned in the impacts area, a strong urban forest in Mountain View could increase tourism and local spending, reduce pollution control costs, reduce social services budgets, increase real estate values thereby increasing property tax revenue and reducing energy costs in both homes and businesses.

Potential Costs:

- Setting up the Tree Amigo training program
- The cost of trees themselves & planting them in new locations
- Pruning, mulching, irrigation (maintenance) costs
- Increased costs in construction when adding trees to parking lots etc

Obstacles:

- Planting and maintaining urban trees and vegetation requires planning and care. Choosing plants suitable for local climate conditions; selecting a location to minimize the potential for damage to buildings, electrical wires, and sidewalks; and watering, mulching, staking, and pruning are important factors to consider.
- The value of trees are not obvious and measurable
- Solar panel installation could sideline some trees.
- Resident apathy to tree benefits along as well as apartment complex management & school management bodies etc.

Partnerships & Contacts:

Mountain View Trees	www.mountainviewtrees.org
Our City Forest	www.ourcityforest.org
Friends of the Urban Forest	www.fuf.net
USDA Forest Service	www.fs.fed.us
American Forests Association	www.americanforests.org
The Western Chapter International	www.wcisa.net
International Society of Arboriculture	www.isa-arbor.com
Society of Municipal Arborists	www.urbanforestry.com
A to Z Tree Movers	www.treemovers.com

Sources:

1. **http://www.coloradotrees.org/benefits.htm**

Appendix

Davey Resource report

2006 Urban Forest Management Report

Contact:

David Oliver
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doliver@biovisability.com

Recommendation #2

Title: Minimize Toxins in Mountain View's Environment

(Note – this recommendation is still in progress, by one of our working group members)

Recommendation:

1) Use integrated pest management at all public sites (city, schools, parks, roadways, etc.)
2) Encourage the use of integrated pest management on private property within the city of Mountain View
3) Do not allow the cosmetic use of pesticides or herbicides within the city

Appendix:

City of Mountain View Integrated Pest Management Plan, June 2003

Recommendation #3

Title: Promote the use of native and drought-tolerant plants in landscaping

Working Group: Suburban Natural Ecosystem

Statement of Issue

Native plants are by definition "Plants best adapted to the local climate and once established, seldom need watering, mulching, protection from frost or continuous mowing." Hence, water-wise landscaping is usually synonymous with native-plant landscaping. A side benefit of native plant is that it attracts wildlife. According to the Bay Nature Magazine, in the Bay Area's residential areas, 20-60% of the land remains open, not yet sealed by paving or covered by structures, and every bit is potential habitat.

Mountain View essentially has a Mediterranean climate. However much of the vegetation planted in gardens and parks around Mountain View reflects a European style, using plants that are not well adapted to this warmer climate with mild wet winters and hot dry summers.

Today in Mountain View, we have many green lawns that are water-intensive, even in the dry summer months. The average lawn uses up to 10,000 gallons of water over a summer. Our working group agrees that green lawns are a necessary part of recreational areas such as playing fields, dog runs, or picnic areas. However, we think that for every other landscaping need, drought-tolerant, native, or edible plants should be used. For example, many corporate campuses still maintain many green lawns regardless of whether they are used recreationally. This is unnecessary. Also, aesthetically green lawns are still considered the default must-have for many homeowners, to maintain a "nice-looking house" and for resale value. This does not have to be so if people are encouraged to adopt a different mindset. Many cities that have enforced regulations requiring water-wise landscaping retain a pleasant atmosphere and high real-estate values, while working within the constraints of their natural ecosystem.

Landscaping uses 60% of the water in Mountain View. Most of this water goes into irrigation for maintaining green lawns. Water is a scarce resource in our semi-arid climate, and is energy-intensive to convey and process. According to CA.Gov, climate change is expected to cause increasing freshwater shortage. As such, switching from lawns to native/drought-tolerant plants will do a lot to reduce our water use.

During the tenure of the Biodiversity working group, we were repeatedly asked what a water-wise native plant landscape looks like. It appears that although there is interest in switching, many homeowners lack the know-how and do not know how to get help.

Recommendation

Our proposal focuses on the native-plant aspect of water-wise landscaping. Please refer to the Synergy section for related proposals in other Working Groups.

We propose the following guidelines, which applies to both residents, businesses, schools, community organizations, and public lands:

a) Encourage the use of native or drought tolerant landscaping for residents, businesses, and public areas. Leverage existing incentives from the Santa Clara Valley Water District that encourage lawn replacement by increasing outreach on the program and matching the incentives already provided by the county to make water-wise landscaping conversion more cost-effective. Establish a link from the city website to water district sites containing information on water-wise landscaping rebates.

b) Minimize grass unless required for specific purposes such as playing fields, dog runs, or picnic areas

c) Discourage HOAs from requiring lawns or other water-intensive landscaping.

d) Discourage the replacement of lawns with concrete or non-permeable materials.

e) Establish native-plant demonstration gardens throughout city parks to educate residents and businesses about alternative to lawn

f) Help advertise the free public education programs available on drought tolerant planting through the water district and other local agencies and NGOs.

This is a short term (1-12 mos.) to medium term (1-3 yrs.) solution.

Environmental Impact

According to the Bay Nature Magazine, "Habitat doesn't only mean parks and undeveloped lands; it also means backyards and front yards and side yards and median strips. It even means gardens of potted plants." Converting backyard lawns into native plant landscapes means that we will be able to create a patchwork of urban habitats suitable for all types of wildlife.

Native plants require less water since they have been in the area for hundreds of years and thus adapted to the arid local weather. Decrease water use translates into lower energy use. In addition, native plants generally require less fertilizers, with their associated petrochemical costs. Native plants also help improve the biodiversity of an area, a priceless asset.

Fiscal Impact

Enter costs or savings here.

Obstacles

Water wise landscaping doesn't have to mean cactus and rocks. It can still look lush and beautiful. This is a common misconception and must be addressed through educational outreach. We think that the city can help this by promoting such gardens through images, for example in PSA and the city website.

Converting to water-wise landscaping requires more involvement from the homeowner/businesses or similarly knowledgeable gardeners. There is a steep learning curve towards implementing native gardens compared to maintaining a lawn. It is imperative to provide training programs to bridge the gap. Once established, water-wise gardens may require lower maintenance than other types of landscaping, counterbalancing this initial input of effort.

Partnerships

- California Native Plant Society, CNPS: http://www.cnps.org/
- Santa Clara Valley Chapter: www.gardeningwithnatives.com/
- Santa Clara Valley Water District

Synergy

Please refer to the Water Working Group proposals for more details on why water is a key component of sustainability. Specifically, this proposal is closely related to the Water Working Group proposal entitled "Make Mountain View Beautiful: Incent Water Wise Landscaping", which focuses on water side of this topic.

Appendix

Citations

1. Gardening for Wildlife with Native Plants (Bay Nature Magazine, Jan-Mar 2003)

2. From Watts to Water, June 2007 (Santa Clara Valley Water District)

3. California Climate Change Portal, FAQ: What Are The Potential Impacts For California's Water? http://www.climatechange.ca.gov/publications/faqs.html

4. Cities Offer Incentives For “Rip Up The Lawn” Movement
   http://www.mnplan.state.mn.us/issues/resource.html?Id=806

5. Water-Wise Gardening for California, Sunset Magazine (2004)

Contact Information

Enter contact information here.

Recommendation # 4

Title: RESTORE MOUNTAIN VIEW'S NATURAL WATERWAYS & WETLANDS

Working Group: Natural Suburban Ecosystems

Statement of Issue:

Undeveloped open space is very limited within the city of Mountain View. As a result, there are few natural habitats available for wildlife and plants. Rivers and streams represent an area of great opportunity for the restoration and development of wildlife habitats within Mountain View. It addition, Mountain View is fortunate to be located adjacent to San Francisco Bay.

While natural waterways have been altered and degraded significantly by human intervention over the past decades, a bond passed several years ago has provided new opportunities and resources for restoration and enhancement of riparian communities. In addition, there has been a recent commitment to restore the Cargill Salt ponds to their natural state. Restoration of streams, rivers, and wetlands within Mountain View benefits the community in several key ways:

- Natural stream and river ecosystems provide better flood protection for communities. Trees and natural vegetation along the banks of rivers and streams increase the natural capacity of creeks to retain soil and provide shade. As a result, these ecosystems are better able to provide a natural buffer against fluctuating water levels.
- Many of the endangered species within Mountain View depend on rivers and streams for all or part of their natural life cycle.
- The contiguous nature of the waterways within Mountain View, provide a natural pathway beside which trails and natural parkways can be developed, enhancing opportunities for the public to enjoy nature and providing trails to allow transportation by foot or by bike.

While Stevens Creek has been the focus of recent restoration efforts, with habitat restoration and new trails projects that have benefited both native species and the public, the Permanente Creek remains primarily a series of concrete channels, with little remaining habitat available. Streams and creeks habitats are degraded when homeowners extend their property boundaries past the set-back area along riverbanks. In addition, dumping refuse into streams can cause significant damage and pollution. Urban run-off into storm drains can be contain hazardous chemicals such as oil and detergents, fertilizers that cause overgrowth of algae, and leaves and garden debris that alter the oxygen content of the water. Excessive water running into the bay may also alter the natural salinity levels of the wetlands adjacent to San Francisco Bay, disrupting the natural ecosystem there.

Recommendation:

The city of Mountain View should work with public and private organizations within the city, to protect and restore the natural waterways within Mountain View.

- It is especially important to support projects to allow fish and other species living within riparian ecosystems to move unobstructed along the waterways, without significant obstacles or uninhabitable expanses within the waterway.
- The city should support efforts to keep creeks clean, by working with local public interest groups to organize creek clean-up days, adopt-a-creek programs, vigorous enforcement of laws prohibiting dumping of refuse into waterways, and educational events highlighting the importance of healthy ecosystems along local waterways in Mountain View.
- The city should help ensure that proper set-backs are honored, so that fences and private property don't encroach into the flow area of streams and creeks.
- The city has recently indicated their support of Santa Clara Valley's plan to install a flood basin at Cuesta Park Annex, using plans that include habitat restoration and enhancement.

Our workgroup supports this effort, provided that the environmental impact assessment scheduled to be completed this July indicates that this would have a favorable impact on plants and wildlife.

- Mountain View should continue to support efforts to restore the Cargill Salt Ponds and other wetland areas to their natural state.
- Excellent environmental education opportunities focusing on the health of the bay and local watershed are already available at the Don Edwards Environmental Education Center, located nearby in Alviso. The city could collaborate with this center, to facilitate participation of more Mountain View residents in these educational programs.
- Increased setbacks around waterways would have a very beneficial effect on habitat restoration

Environmental Impact:
Restoring waterways would lead to greater species diversity, protect endangered species within Mountain View, and would enhance the buffering capacity of waterways to reduce flood risk. It would enhance recreational opportunities within the city of Mountain View, and pathways could be used for biking, reducing reliance on fossil fuels for transportation.

Fiscal Impact:
While bond funds have been designated for the restoration and enhancement of waterways within Santa Clara, the city needs to take action to have a portion of these funds directed towards restoration efforts for waterways within Mountain View. The Water Board decides how to distribute these bond funds. Cities demonstrating an interest and commitment to waterway restoration by allocating funds (e.g. 10-20% of the cost of a project) will be more likely to have the Water Board designate funds to cover the remaining cost of the restoration effort. While the total cost of a significant restoration project is likely to be millions of dollars, cities need only take on a small share of the costs, a sign of their support for a project and a commitment to ensuring its success.

Ensuring that homeowners and business comply with rules and regulations regarding setbacks near waterways and do not pollute or dump refuse into streams and rivers would add an incremental cost to funds currently committed to law enforcement in Mountain View.

Volunteer efforts to clean and restore waterways and label storm drains to discourage dumping would be a low cost intervention, and could be coordinated with local NGOs. Partnering with the Don Edwards Environmental Education Center to increase citizens awareness of the importance of protecting our waterways would also be a relatively low cost intervention.

Purchasing land for increased set-backs around waterways would

Obstacles:
While there may be public perception that concrete water channels reduce erosion, effective erosions can be achieved through a combination of natural vegetation and judicious use of concrete barriers in areas of high flow. The Santa Clara Valley Water District is involved in in-depth study of water flow conditions, to achieve the optimal balance of natural and man-made materials to achieve effective erosion control, while maximizing habitat restoration.

Many people unaware of the improvement in flood control that occurs when natural waterways are restored, and may instead perceive man-made channels as more effect. The public misperception could be corrected through information and education.

Environmental education programs are frequently attended by individuals who already have a strong interest in protecting the environment. Reaching individuals and families in Mountain View who are not as inclined towards environmental causes is more challenging, but important as these individuals may be more likely to engage in environmentally damaging practices. Bringing

programs from the Don Edwards Environmental Education Center to local sites within Mountain View, and assisting with advertising the Center's programs by including the Center's newsletter and program listings in mailings done by the City, may increase participation by local Mountain View residents, raising the overall level of awareness and interest in the restoration of local waterways.

Cost is a significant obstacle for larger restoration efforts, though other funding mechanisms mentioned above should help ease this burden.

Purchasing land for increased set-backs surrounding waterways would be costly, both from a financial and political perspective.

Potential Partnerships:
Santa Clara Valley Water District
Stevens Creek & Permanente Creeks Watershed Council
Santa Clara County Creeks Coalition
The Audubon Society
Don Edwards Environmental Education Center in Alviso

Citations:
Draft management framework, Stevens Creek & Permanente Creeks Watershed Council
http://spcwc.org/documents/spcwc_framework.pdf

Contact information:

Recommendation #5

Title: Habitat preservation and restoration

(Note: a revised version of this recommendation was lost in cyberspace, and will be forwarded to the group when available).

Working Group: Biodiversity

Statement of Issue

To maximize small and large scale habitat preservation, restoration & creation within Mountain View

Recommendation: Many of these can be offered to students, families and organizations as city wide projects

- Obtain National Wildlife Federation certification as a Community Wildlife Habitat (ST)
- Obtain Monarch Watch Waystation certification as a butterfly migration stop (ST)
- Obtain certification as a migratory bird stop (ST)
- Support SCVWD flood basin project at Cuesta Park, if the environmental impact statement that will be completed in July finds this project will favorably impact wildlife habitat in this area. (ST)
- Undertake environmental impact reports prior to hearings and the granting of permits (ST, ongoing)
- Require habitat preservation and creation (a percentage) with all new building permits (ST, ongoing)

Environmental Impact

1) Native habitats create less GHG, use fewer resources and are more sustainable than those that are non-native.
2) Native habitats also work to preserve the interconnected ecosystem of plants, birds, insects and other wildlife, as well as enhance the lives of humans. Mountain View is the home to several endangered and threatened species that will benefit from habitat preservation, restoration & creation.

Fiscal Impact and Synergies

Over time there is a fiscal savings, though there might be an initial increase in expenditure. (I don't have the expertise to address this in detail)

Obstacles

- The concurrent potential for development of lands that can also be targeted for preservation and restoration.
- These activities require a change in perception and activities that result from these perceptions, as to the importance – and necessity of native habitats in the reduction of GHG

Partnerships

There is the potential for partnership between the city of Mountain View and numerous local non-profit organizations, such as Mountain View Trees, Acterra, California Native Plants Society and Friends of the Steven's Creek Trail.

Appendix

Citations

Web Sites (not referenced in footnotes)

http://www.cnps.org
http://www.mountainviewtrees.org
http://www.nwf.org/community/
http://www.spcwc.org
http://www.stevenscreektrail.org
www.acterra.org
http://nationalzoo.si.edu/ConservationAndScience/MigratoryBirds/
http://www.monarchwatch.org/waystations/waystation_requirements.pdf

Contact Information

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Recommendation #6

Title: Access to Environment Impact Information Prior to Project Approval; Preservation and Expansion of Parklands within the City of Mountain View

(Note: this recommendation still in progress)

Working Group: Suburban Natural Ecosystems & Biodiversity

Statement of Issue:

Very little open space areas remain within the city of Mountain View. City parklands are limited, and not widely distributed throughout the city. When the city council is asked to consider approving a project on parklands, information on the anticipated environmental impact of a project is not required until after a specific project concept has been approved.

The planning philosophy of Mountain View subscribes to the California Environmental Quality Act (CEQA) which describes the process by which the impact of a government or private body's project's proposed development (or modification to existing structures) on the environment is assessed by the creation of an Environmental Impact Report (EIR)[(1)]. This process takes into account all of the elements that make up an environment including those that make up the biological & ecological components of this. While this is an well established process, concern has been expressed to this group that it does not take sufficiently into account the impact of actions on the ecosystem (e.g. looking at the effect the removal of trees has on the temperature, carbon sequestering, breeding sites for the local fauna etc). Also, not all projects are subject to CEQA.

Recommendations:

SHORT TO MEDIUM TERM (1-24 mos.):

- Mandate that all developments in the City are subject to the EIR process regardless of their status under CEQA.
- Draw up a set of supplementary guidelines (to CEQA's) for the EIR that describe criteria for assessing the biological/ecological/sustainability impact of projects (this can be done in conjunction with local interest groups & stakeholders).
- Incorporate these guidelines into the decision making process for developments.
- Whenever parkland is being considered for development, even if that development is for a city project (museum, recreation center, etc.), information regarding anticipated environmental impact should be available for the city council and public to review, prior to any approval of concept for a project.
- Every effort should be made to identify alternative sites on previously developed land for any new buildings, parking lots, or other developments being proposed for construction on parkland or other open space areas currently owned by the city.

Fiscal Impact: Low to Medium

LONG TERM

- Identify land currently owned by Mountain View that could be converted to parkland. Identify land within Mountain View that can be purchased for additional parklands within the city. Focus these purchasing and redeployment efforts on areas within Mountain View that currently have more limited area devoted to parks.

Fiscal Impact: Medium for redeployment of city lands to parks and open space, high for new land purchases

Environmental Impact [2,3,4]:

It is felt by this group that preservation of the ecological & biodiversity (& has been demonstrated else where in the report) is desirable so that the City achieves it's Sustainability goals. If the effect on the biological environment is more fully taken into account when development/re-development is being considered, many of the elements mentioned earlier (increasing/preserving the tree cover, maintaining/restoring habitats) will be realized.

Fiscal Impact:

As mentioned elsewhere, a strong urban ecosystem in Mountain View could increase tourism and local spending, reduce pollution control costs, reduce social services budgets, increase real estate values thereby increasing property tax revenue and reducing energy costs in both homes and businesses.

Potential Costs:

- Decreased revenues due to less development/re-development.
- Cost of maintaining the ecosystem

Obstacles:

- Resistance from stakeholders to having to carry out more comprehensive EIRs.
- Resistance to potential reductions in development.
- Lack of accepted method to measure the value of a strong urban ecosystem.

Partnerships & Contacts:

Mountain View Trees	www.mountainviewtrees.org
Friends of the Urban Forest	www.fuf.net

Sierra Club	http://lomaprieta.sierraclub.org/
Humane Society: Urban Wildlife	www.hsus.org/wildlife/urban_wildlife_our_wild_neighbors/
The Ecological City Project	http://www.umass.edu/ecologicalcities/
Center for Urban and Regional Ecology (CURE)	http://www.cure.gatech.edu/
Urban Wildlife Resources	www.urbanforestry.com

Sources:

1. **http://ceres.ca.gov/ceqa/**
2. Humane Society: Urban Wildlife
3. The Ecological City Project
4. Center for Urban and Regional Ecology

Recommendation #7

Title: A Green Gardener Certification Program, as a part of the larger Green Trades Project

Working Group: Biodiversity and the Urban Forest.

Statement of Issue

A significant percentage of Mountain View residents hire landscape workers to design, install and maintain their gardens. Residents who want to follow environmentally sustainable practices must have access to those trained in the appropriate knowledge and skills necessary to this specialty.

There are two major areas if benefit achieved by this program. The first is the creation of a cadre of green Gardeners, who have a specialized skill that is both needed and appreciated by the community. This promotes job security and increases a resource for Mountain View. The participants can include those who are unemployed or hard to employ, thereby bettering the well being of a troubled segment of the community.

The second major benefit is the introduction and increased focus on environmentally sustainable gardening and landscaping. Often the consumer relies on the hired gardener for their expertise in suggesting appropriate plants, irrigation, pest control, landscaping and maintenance. Those who are trained in green techniques benefit not only their clients, but the community at large. It is estimated that the average lawn uses up to 10,000 gallons of water over the summer which can amount to 67% of a family's total water consumption (www.easst.net/review/june1995/rogers). This is alone is an extraordinary use of increasingly scarce resources.

Recommendations:

- To train landscapers, landscape assistants and youth workers to promote and practice the principles of environmentally sustainable landscaping. This will be accomplished through the creation of a certification program, offered in both English and Spanish.
- Create a public data base of green landscapers, landscape assistants and youth workers, including current knowledge, skills and experience
- Green Gardening is based on the use of native and drought tolerant plants, pest control without the use of pesticides, water conserving irrigation and the use of compost and mulches.
- The Green Gardener Program is one component of a larger Green Trades Project
- The Green Gardener Program will be linked to existing programs; such as the Environmental Studies and Horticulture programs at Foothill and De Anza Junior Colleges, the Mountain View Day Workers Center, the YMCA, Alta Vista and other Technological/Educational Programs.
- It is also recommended that the City of Mountain View include their gardeners and landscapers in this training program

Environmental Impact

1) Decreased pollution of the environment by the prohibition of toxic substances such as pesticides and herbicides
2) Decreased GHG through the decrease in the use of natural resources such as water, gasoline (lawnmowers, leaf blowers)
3) Decrease GHG through a decrease in garden waste

Fiscal Impact and Synergies

It will require a significant expenditure to create this program. Cost benefit will be seen in the long term. It is difficult to predict the exact cost and the recommendation is for the city of Mountain View to designate $5000 for a feasibility study and the creation of a more in depth proposal for the Green Trades Project.

* Sen. Steinberg's Green Jobs/Technical Education Act passed the California Senate (Senate Bill 1672). It is now heading to the Assembly Appropriations Committee. The bill would invest $2.25 BILLION in projects that create green jobs, provide education to youth and adults, and stimulate growth in clean energy business. There is potential for the Green Trades Program to obtain funds from this bill

Obstacles

- Financial, this will require a significant initial expenditure
- Lack of community knowledge about the importance of green trades

Partnerships:

Potential Partnerships include the following: Foothill Community College, Santa Clara County Master Gardeners, Acterra, Common Ground, Mountain View Day Worker Center

Web Sites

http://www.green-gardener.org/
http://www.clca.org/clca/about/chapters/cc.php
http://www.ela-ecolandscapingassn.org/
http://ellabakercenter.org/page.php?pageid=32
http://www.commongroundinpaloalto.org/

Appendices

THE MONTEREY BAY

Green Gardener PROGRAM

History of the Green Gardener Program

This program began as the Green Gardener Certification Program in Santa Barbara County on March 2000. The goal of the program was to educate and certify local gardeners in resource efficient and pollution prevention landscape management practices.

Since then, the Monterey Bay and Santa Barbara Programs have collaborated to both standardize and extend the bi-lingual curriculum. As of August 2006, together both programs have certified over 900 landscapers.

Ecology Action

Ecology Action is a nonprofit environmental consultancy, delivering cutting edge education services, technical assistance and program implementation for initiatives that assist individuals, business and government to maximize environmental quality and community well being.

Find a certified Green Gardener in your area now.

Who are the Instructors and What Topics are Covered?

Green Gardener instructors are either landscape contractors or experts in the field. The training consists of two ten-week series and is given in both English and Spanish.

The curriculum covers the following topics:

STANDARD Curriculum Topics	*ADVANCED Curriculum Topics*
Soil Health	Sustainability/ Green Design
Fertilizers	Irrigation Design
Integrated Pest Management (IPM)	Irrigation Scheduling
Irrigation I	Integrated Pest Management (IPM) I
Irrigation II	Integrated Pest Management (IPM) II
Irrigation III	Advanced Pruning
Pruning	Soil Food Web/ Compost Tea
Mulches & Compost	Soil Fertility
Plant Selection	Abiotic Disorders
Air Quality + Final	Final

Check out a sample of our curriculum * Attached as PDF**

Individual Certification

The Green Gardener Program certifies and promotes individual graduates. In order to become certified, gardeners attend both series that consist of ten, two-hour sessions for a total of 40 hours of instruction. Gardeners must also obtain a passing score on a final exam that covers all core subjects.

Interested in Implementing this Program in Your Area? For a program resource package please contact:

Kurt Hurley
Program Specialist
Ecology Action
Email
Phone: 831-426-5925 x108
Fax: 831-425-1404

Recommendation # 8

Title: Protecting Biodiversity Through Partnership with the Santa Clara Valley Habitat Conservation Plan

Working Group: Suburban Natural Ecosystems

Issue:

The Santa Clara Valley Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) project is a regional partnership between six Local Partners (the County of Santa Clara, Santa Clara Valley Transportation Authority, Santa Clara Valley Water District, and the Cities of San Jose, Gilroy and Morgan Hill) and three Wildlife Agencies (the California Department of Fish and Game, the U.S. Fish and Wildlife Service, and the National Marine Fisheries Service (NMFS-NOAA Fisheries). Created in 2005, San Jose, Santa Clara County and four other cities and agencies have agreed to create a conservation strategy for more than half of the county. The plan spells out how damage to threatened and endangered species and their habitat can be mitigated. That could lead to a simpler permit process for both public and private projects. The agreement lists 26 species, from the tricolored blackbird and the San Joaquin kit fox to the Mount Hamilton thistle. Plans are developed to evaluate how to protect endangered and threatened species. While mitigation has to be at the site on a project-by-project basis, species protection may require a more widespread and coordinated approach throughout the county and region. Mitigation plans must be approved by the U.S. Fish and Wildlife Service and the California Department of Fish and Game. In addition, the agreement also calls for an independent scientific advisory panel.

Habitat conservation plans are a relatively new tool for the protection of endangered species and represent an important integration of land-use planning and habitat conservation. The Santa Clara Valley HCP/NCCP is attempting to provide a more efficient process for protecting the environment and processing applications for local projects that may affect endangered species. Under the current system, local governments must evaluate projects individually in consultation with a variety of federal and state regulators to mitigate for habitat loss — a lengthy and costly process. The current system also does less to protect wildlife because project specific mitigation measures result in land being set aside on a piecemeal basis, resulting in fragmented habitats that are less ecologically viable and also more difficult to manage.

Recommendation:

Mountain View should become a partner in the Santa Clara Valley Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) project, cooperating with other surrounding communities in the development and implementation of plans to preserve threatened and endangered species.

Environmental Impact:

While this partnership was established in 2005, inclusion of Mountain View in the consortium could lead to even greater opportunities for collaborating to protect endangered and threatened species.

Fiscal Impact:

Low to participate in the partnership.
Medium to high costs associated with participating in conservation projects

Partners:
Santa Clara Valley HCP/NCCP
Program Manager Ken Schreiber
Santa Clara County Government Center
(408) 299-5789 phone
ken.schreiber@pln.sccgov.org
Website: http://scv-habitatplan.org/www/site/alias__default/home/1/home.aspx

Appendix:
List of Endangered/threatened/special concern species under endangered species act and migratory bird treaty act.

Federal Endangered and Threatened Species that Occur in or may be Affected by Projects in the Counties and/or U.S.G.S. 7 1/2 Minute Quads you requested

Document Number: 080518081717

Database Last Updated: January 31, 2008

Quad Lists

MOUNTAIN VIEW (428A)

Listed Species

Invertebrates

- Euphydryas editha bayensis
  - bay checkerspot butterfly (T)
- Incisalia mossii bayensis
  - San Bruno elfin butterfly (E)
- Lepidurus packardi
  - vernal pool tadpole shrimp (E)

Fish

- Acipenser medirostris

    - green sturgeon (T) (NMFS)

- Hypomesus transpacificus
    - delta smelt (T)

- Oncorhynchus kisutch
    - coho salmon - central CA coast (E) (NMFS)

- Oncorhynchus mykiss
    - Central California Coastal steelhead (T) (NMFS)
    - Central Valley steelhead (T) (NMFS)
    - Critical habitat, Central California coastal steelhead (X) (NMFS)

- Oncorhynchus tshawytscha
    - Central Valley spring-run chinook salmon (T) (NMFS)
    - winter-run chinook salmon, Sacramento River (E) (NMFS)

Amphibians

- Ambystoma californiense
    - California tiger salamander, central population (T)

- Rana aurora draytonii
    - California red-legged frog (T)

Birds

- Charadrius alexandrinus nivosus
    - western snowy plover (T)

- Rallus longirostris obsoletus
    - California clapper rail (E)

- Sternula antillarum (=Sterna, =albifrons) browni
    - California least tern (E)

Mammals

- Reithrodontomys raviventris
    - salt marsh harvest mouse (E)

Species of special concern under the MBTA:

Burrowing Owl: We have in Santa Clara four big populations at least: two are located in San Jose State University and San Jose Airport, and within Mountain View, we have one in Moffett and another in Shoreline Park. The reason is that, these owls take the burrows (normally done previously by another animal such as ground squirrel) in the grasslands and really short grasses, so campuses, parks and airports are common place for them to have their habitat.

Key:

- (E) Endangered - Listed as being in danger of extinction.
- (T) Threatened - Listed as likely to become endangered within the foreseeable future.
- (P) Proposed - Officially proposed in the Federal Register for listing as endangered or threatened.
- (NMFS) Species under the Jurisdiction of the National Oceanic & Atmospheric Administration Fisheries Service. Consult with them directly about these species.
- Critical Habitat - Area essential to the conservation of a species.
- (PX) Proposed Critical Habitat - The species is already listed. Critical habitat is being proposed for it.
- (C) Candidate - Candidate to become a proposed species.
- (V) Vacated by a court order. Not currently in effect. Being reviewed by the Service.
- (X) Critical Habitat designated for this species

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute quads. The United States is divided into these quads, which are about the size of San Francisco.

The animals on your species list are ones that occur within, or may be affected by projects within, the quads covered by the list.

- Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.
- Amphibians will be on the list for a quad or county if pesticides applied in that area may be carried to their habitat by air currents.
- Birds are shown regardless of whether they are resident or migratory. Relevant birds on the county list should be considered regardless of whether they appear on a quad list.

Plants

Any plants on your list are ones that have actually been observed in the area covered by the list. Plants may exist in an area without ever having been detected there. You can find out what's in the surrounding quads through the California Native Plant Society's online Inventory of Rare and Endangered Plants.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list.

For plant surveys, we recommend using the Guidelines for Conducting and Reporting Botanical Inventories. The results of your surveys should be published in any environmental documents prepared for your project.

Your Responsibilities Under the Endangered Species Act

All animals identified as listed above are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the take of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal.

> Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

- If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a formal consultation with the Service.
- During formal consultation, the Federal agency, the applicant and the Service work together to avoid or minimize the impact on listed species and their habitat. Such consultation would result in a biological opinion by the Service addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.
- If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an incidental take permit. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project.
- Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that minimizes the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as critical habitat. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Boundary descriptions of the critical habitat may be found in the Federal Register. The information is also reprinted in the Code of Federal Regulations (50 CFR 17.95). See our critical habitat page for maps.

Candidate Species

We recommend that you address impacts to candidate species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Species of Concern

The Sacramento Fish & Wildlife Office no longer maintains a list of species of concern. However, various other agencies and organizations maintain lists of at-risk species. These lists provide essential information for land management planning and conservation efforts. More info

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6580.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed and candidate species in your planning, this should not be a problem. However, we recommend that you get an updated list every 90 days. That would be August 16, 2008.

THE PREDATOR/PREY DILEMMA

As we will see with this short food web, we cannot leave an specie apart in order to just consider the habitat. Everything is connected. We cannot pretend to “eliminate” the salt marsh harvest mouse (even if it wasn't endangered as it is) because we don't like it, because this is the prey for the burrowing owls. If the burrowing owls population decays, we are going to find increased the population of ground squirrels, because the owls feed on them.

This was just an example. The food web, indeed, is much more complicated than that, and we cannot “remove” an specie without being indirectly damaged ourselves. Maybe in a short period of time. Maybe in a long while. But, we will.

Bay checkerspot butterfly -- While the larvae are dependent on the host plants, mostly the dwarf plantain for sustenance the adult butterflies live on nectar. They feed on a *variety of plants associated with serpentine grasslands.* Some of these plants include California goldfields, Desert parsley, scytheleaf onion, false baystars, intermediate fiddleneck and others.

San Bruno elfin butterfly -- The tiny larvae first feed on the plant's vegetative structures. However, when the stonecrop's flowers begin to open the larvae migrate upward and feed on the flowers themselves. By June most have completed their larval development at which time they leave the host plant to pupate in ground litter. They lie dormant as pupae until the following spring, when the cycle begins again.

An interesting aspect of this butterfly's life cycle is its mutualistic interaction with ants. Elfin larvae excrete a sweet liquid known as honeydew which attracts ants. In exchange for honeydew, the ants often provide protection from harm by predators and parasites, major mortality factors in foliage feeding insects.

Vernal pool tadpole shrimp -- They are very aggressive omnivores. They eat algae, bacteria, protozoa, rotifers, aquatic earthworms, insects, Fairy Shrimp, frog eggs and tadpoles.

Green sturgeon – They feed on **invertebrates and small fish.**

Delta smelt – They feed entirely on small crustaceans called zooplankton.

Coho salmon – They feed on plankton and insects.

Central California Coastal steelhead --In freshwater habitats, steelhead parr and rainbow trout feed primarily on small invertebrates. Juveniles, particularly fry, are vulnerable to predation by birds including kingfishers, mergansers, green herons, great blue herons, and night herons. Garter snakes also prey on juveniles as do raccoons, particularly in situations in which fish are trapped in isolated pools during the dry season.

Central Valley steelhead – They feed mostly on immature aquatic insects but also on other items such as emerging mayflies and salmonid eggs.

Central Valley spring-run chinook salmon -- While in freshwater, Chinook Salmon fry and smolts feed on plankton and then terrestrial and aquatic insects, amphipods and crustaceans. After migrating to the ocean, the maturing adults feed on large zooplakton, herring, pilchard, sandlance and other fishes, squid, and crustaceans. Once the adult salmon have re-entered freshwater, they do not feed. In the Great Lakes, Chinook Salmon were introduced to control the invasive alewife population (National Wildlife Federation, 2002; Delaney and ADFG, 1994; Government of Canada, 2002).

For young Chinook Salmon, predation is very high. Many species eat the fry and smolts, including striped bass, American shad, sculpins and sea gulls. Reaching adulthood does not release them from predation, however, as they are still prey to many animals when they return to spawn. Most common are bears, orcas, sea lions, seals, otters, eagles, terns and cormorants. People have made predation worse by concentrating adult salmon at dams and weirs (Pacific States Marine Fisheries Commission, 1996; National Wildlife Federation, 2002; NOAA, 2001; University of California at Berkeley).

Winter-run chinook salmon -- Aquatic insects and small fish.

California tiger salamander -- Adults probably feed mainly on a variety of invertebrates. Hatchlings feed on zooplankton and older larvae feed largely on tadpoles.

California red-legged frog -- Adult Red-legged frogs eat beetles, caterpillars, isopods and other invertebrates while the tadpoles are vegetarian and eat filamentous green algae.

Animals shown to feed on adult Red-legged frogs include: raccoons, great blue herons, belted kingfishers, cutthroat trout, red-tailed hawks, marsh hawks, hooded mergansers, great horned owls, red foxes, striped skunks, mink, **feral house cats**, and even other species of adult frogs. Newts (*Taricha* sp.) feed on egg masses as well as tadpoles (Rathbun, 1988). Leeches, giant water bugs, predacious diving beetles, backswimmers, water scorpions, dragonfly nymphs, and salamander larvae. Garter snakes feed on both tadpoles and adults.

Prior to 1900, Red-legged frogs were harvested for their legs (Jenings & Hayes, 1985). Today, predation by bullfrogs is thought to be the biggest threat to contining existence of Red-legged frogs (Waye, 2000). After predation, habitat destruction is the next biggest threat facing Red-legged frogs. This may occur in the form of pollution (especially from herbicides and pesticides), logging activities as well as the presence of the water mold *Saprolegnia ferax* (Adams, 1999).

Western snowy plover -- The western snowy plover mainly feeds on terrestrial and aquatic invertebrates, for instance brine flies, brine fly larvae and brine shrimp.

Many raptors like the peregrine falcons and other falcons and the northern harrier and other hawks may prey on plovers. Eggs or nestling are also fed on by the California gull, the cattle egret and other large birds. Beach nesting plovers may also be threatened by the red fox, kit fox, striped skunks, raccoons, badgers, and other carnivorous mammals which may inhabit the beach ecosystem.

Poor reproductive success, resulting from human disturbance, predation, and inclement weather, combined with permanent or long-term loss of nesting habitat to encroachment of non-native European beachgrass (*Ammophila arenaria*) and urban development has lead to a decline in active nesting, as well as an overall decline in the breeding and wintering population of the snowy plover along the Pacific coast (USDI Fish and Wildlife Service 1993).

Human activities, such as walking, jogging, running pets, horseback riding, and vehicle use, are key factors in the ongoing decline in breeding sites and populations. The nesting season of the western snowy plover (March through September) coincides with the period of greatest human use (Memorial Day through Labor Day) on beaches of the west coast. Intensive beach use by humans may result in abandonment of nest sites, reductions in nest density, and reductions in nesting success.

California clapper rail -- These birds eat crustaceans, aquatic insects and small fish.

California least tern -- Least terns are opportunistic feeders known to capture more than 50 species of fish. Feed in relatively shallow, near shore waters and coastal freshwater ponds, channels, and lakes.

salt marsh harvest mouse -- Herbivore. Main food: seeds, grasses and forbs (broad-leaved herbs), as well as insects. In winter fresh grasses are preferred. The rest of the year they feed on pickleweed and salt grass. They are able to eat food and water with high salt levels.

Burrowing owl – They eat a huge amount of insects (grasshoppers and beetles) but also eat mice,

voles, ground squirrels, toads, small birds. It will eat animals that are already dead. They are prey for snakes, owls, hawks, badgers, skunks, foxes, weasels. Cats and dogs eat the young birds or the eggs. Owls are killed on roads and highways.

More dangers are:

-too many predators
-not enough burrows (animals that dig burrows are declining)
-loss of grasslands (land is used for farming, roads, homes)
-poisoning (owls eat animals that have been poisoned)
-spray used to kill grasshoppers harms the owl.

Also, they could be in peril if the city decides to use one of those products that contains some kind of contraceptive to reduce the goose population at Shoreline Golf Course of the non-native specie Goose Canada, Branta canadensis. This product is nor approved yet by the state, but the goose is protected, so the burrowing owls are. (Source: Moffett/Whisman Road Neighborhoods area meeting report--May 31st, 2007)

Citations (not referenced in footnotes)

Ecosystems Management. Adaptive, Community-based conservation.
Authors: Meffe, Nielsen, Knight, Schenborn.

2002 Island Press.

Predator/Prey:

http://essig.berkeley.edu

http://www.sacsplash.org/critters/leppac.htm

http://www.scv-habitatplan.org/

http://people.westminstercollege.edu/faculty/tharrison/gslplaya99/plover.htm#What%20Does

http://www.fsa.usda.gov/FSA/webapp?area=home&subject=ecrc&topic=waf-ma

http://www.saskschools.ca/~gregory/animals/burowl1.html

Web Sites (not referenced in footnotes)

http://www.sccgov.org/portal/site/planning/planningchp?path=%2Fv7%2FPlanning%2C%20Office%20of%20(DEP)%2FProperty%20Info%20%26%20Development%2FEnvironmental%20Protection%2FEndangered%20Species%20Act

http://www.scv-habitatplan.org/www/Portals/_default/Documents/SCV%20HCP%20FAQ.pdf

http://www.fws.gov/sacramento/es/spp_lists/auto_list_form.cfm

http://www.fws.gov/sacramento/es/spp_lists/auto_list.cfm

general:
http://www.fws.gov/sacramento/es/spp_lists/auto_list_form.cfm

CNDD
http://www.dfg.ca.gov/wildlife/species/t_e_spp/index.html

special concern and others:
http://www.dfg.ca.gov/biogeodata/cnddb/plants_and_animals.asp

to look for species:
http://www.dfg.ca.gov/biogeodata/cwhr/cawildlife.aspx

maps:
http://www.dfg.ca.gov/biogeodata/cwhr/

cwhr info:
bdb@dfg.ca.gov

others:
http://animals.about.com/b/2006/07/19/threatened-and-endangered-animals-of-california.htm

http://www.sccgov.org/portal/site/planning/planningchp?path=%2Fv7%2FPlanning%2C%20Office%20of%20(DEP)%2FProperty%20Info%20%26%20Development%2FEnvironmental%20Protection%2FEndangered%20Species%20Act

and:
http://www.sccplanning.org/portal/site/planning/

sustainability group:
http://www.mapcruzin.com/svep/species.htm

HCP
http://www.scv-habitatplan.org/www/Portals/_default/Documents/SCV%20HCP%20FAQ.pdf

http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/TEPlants.pdf

http://www.mountainview.net/free-guide/

Other Recommendations Considered:

One issue that was raised in the public forums we had was the issue of feral cats. Espe has summarized the issue as follows, but we are not sure what, if any, our stand should be on it, and whether and how we should fit it into our recommendations:

FERAL CATS PROBLEM

Feral cats are the 'wild' offspring of domestic cats and are primarily the result of pet owners' **abandonment or failure to spay and neuter** their animals, allowing them to breed uncontrolled. Feral cat 'colonies' can be found behind shopping areas or businesses, in alleys, parks, abandoned buildings, and rural areas. They are elusive and do not trust humans.

Many people assume their animals will survive when they move away and leave them behind. Contrary to popular belief, **domestic animals** do not automatically return to their "natural" instincts and **cannot fend for themselves!** Already, U.S. animal shelters are forced to kill an estimated 15 million homeless cats and dogs annually. The alternative to humane euthanasia for almost every stray is a violent end or slow, painful death. Many "throwaways" die mercilessly outdoors from starvation, disease, abuse --- or as food to a predator.

The issue:

The number of those wild cats concerns wildlife and ornithology organizations that believe these stealthy predators decimate bird populations and threaten public health. The organizations want the cats removed from the environment and taken to animal shelters, where they are often killed.

There are a variety of rescue groups that do TNR in Mountain View, but no single responsible organization. Two organizations are doing TNR in Mountain View:
Peninsula CatWorks
http://www.peninsulacatworks.org/index.php
and Fat Cat rescue
http://www.fatcatrescue.org/index.php
http://www.fatcatrescue.org/about.php

Another issue:

Use of contraceptives for the Canada Goose population at Shoreline Golf Course – effect on environment and other animals?